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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/733,579
Filing Date: December 12, 2003
Appellant(s): KIM, KYUNG-AH

Peter A. McKenna
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10/07/10 appealing from the Office action mailed 03/03/10.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims 1-15, 17-19, 21, and 23-24 are rejected

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the

subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

Robarts et al (US 2005/0278741)

Lee et al (US6,463,428)

Dagtas (US 2003/0093260 A1)

Kikinis (US 7,213,256 B1)

Hori et al (US 7,209,942)

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-4, 7, and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robarts et al. (US 2005/0278741) in view of Lee et al. (US 6,463,428) in view of Dagtas et al (US 2003/0093260 A1).

Regarding claim 1, Robarts et al. ("Robarts") teaches a content program information search system comprising: a server (Fig. 3--42) logically connected to a first database (Fig. 3--EPG database 86) configured to store a plurality of search terms inputted from external devices (paragraph 48, 49 and 85); and a digital signal receiver configured to detect and to display for a selected search term of the plurality of search terms at least one of a content signal and detailed content information from a digital signal transmitted from a transmitter (paragraph 77, 82), wherein said server is configured to extract from the first database and to transmit to the transmitter at least one transmission search term of the plurality of search terms (paragraphs 47, 48 and 49).

Robarts, however, is silent in teaching extracting and transmitting at least one search term based on an order of priority based on search frequency and said digital signal receiver is configured to display in the order of priority the at least one transmission search term transmitted from the transmitter.

In analogous art, Lee et al. ("Lee") teaches extracting and transmitting at least one search term based on an order of priority based on search frequency and said digital signal receiver is configured to display in the order of priority the at least one transmission search term transmitted from the transmitter (col. 5, lines 1-16--extracted

keywords could be ranked based on frequency in which the keyword appeared; col. 7, lines 19-29--server operating offsite through a link).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Robarts by extracting and transmitting at least one search term based on an order of priority based on search frequency and said digital signal receiver is configured to display in the order of priority the at least one transmission search term transmitted from the transmitter, as taught by Lee, in order make the number of possible keywords easier to handle and easier to select (Lee: col. 5, lines 1-5).

However, Robarts and Lee are silent in teaching a system wherein the search frequency corresponds to a frequency at which the search terms are input from the external input device. Dagtas teaches on (page 4 paragraph (0045)) controller (250) comprises metadata search module (330) which compares search words specified by a user with words contained within a metadata. In addition, (paragraph (0048)) teaches computer software (350) comprises exclusive metadata search application (430), word pair database (450), rank value calculation application (460), priority assignment application (470), and recording priority update application. Further, (figure 3) shows the multimedia processor (240) has inputs from the external metadata search module (330), computer software (350), etc.

Therefore, it would have been obvious at the time of the invention to include the use of a search frequency at which the search terms are input from the external input

device. This is a useful combination because the system is capable of browsing through a list of keywords and filtering them before inserting them to a dictionary.

Regarding claim 2, Robarts teaches an internet service provider (Fig. 3--94) configured to provide a path to transmit the selected search term of the plurality of search terms from an external device of the external devices to the first database (paragraphs 52, 53 and 85), the external device being at least one digital signal receiver (Fig. 3--64) connected to said internet service provider.

Regarding claim 3, Robarts teaches wherein said digital signal receiver includes: a detector configured to detect the at least one transmission search term of the plurality of search terms from the digital signal (Fig. 3--74; paragraph 45); a list generator configured to generate a search term list by arrangement of the detected transmission search term (Fig. 6--202,204,206, etc.); a controller (Fig. 5--102; paragraph 63) configured to control display of the generated search term list if a user request for a search is inputted, and, if the selected search term is selected from the displayed search term list, to control the display of the detailed content information for the selected search term (Fig. 7; paragraph 82); a graphic engine configured to provide in a displayable form the search term list and the detailed content information for the selected search term according to control of said controller (Fig. 7--EPG graphical user interface); a display unit configured to display at least one of the search term list and the detailed content information provided by said graphic engine (Fig. 3--broadcast enabled

personal computer); and a communication interface configured to transmit the selected search term to the first database (paragraph 53--back channel).

Robarts, however, is silent in teaching generating a search term list based on the order of priority. In analogous art, Lee teaches generating a search term list based on the order of priority (col. 5, lines 1-16--extracted keywords in the list could be ranked based on frequency in which the keyword appeared; col. 7, lines 19-29--server operating offsite through a link).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Robarts by generating a search term list based on the order of priority, as taught by Lee, in order make the number of possible keywords easier to handle and easier to select (Lee: col. 5, lines 1-5).

Regarding claim 4, Robarts teaches wherein said server further comprises a second database configured to store content program guide information including the detailed content information (Fig. 3--82, 80), the server configured to transmit to the transmitter the broadcast program guide information (paragraph 47) and the at least one transmission search term of the plurality of search terms according to the order of priority (paragraph 48 and 49).

Regarding claim 7, Robarts teaches an internet service provider (Fig. 3--94) providing a path for transmitting the selected search terms of the plurality of search terms transmitted from the external devices to the first database (paragraphs 52, 53 and 85), wherein at least one external device of the external devices is a terminal configured

to input and to output data and is configured to be connected to said internet service provider (Fig. 3--66 and/or 68).

Regarding claim 23, Robarts teaches the content program information search system as claimed in claim 1, wherein the search frequency corresponds to a frequency at which the search (The EPG then creates a unified query which combines the three queries to jointly identify programs (page 2 paragraph (0021) lines 7-9)) terms are typed in by the user (The keypad has ten numerical keys which also correspond to associates letters (page 2 paragraph (0024) lines 4-6)).

Regarding claim 24, Robarts teaches the content program information search system as claimed in claim 1, wherein the search frequency corresponds to a frequency at which the search terms are selected by the user (The viewer can define a query for identify any programs mentioning (page 2 paragraph (0023) lines 8-12)).

3. Claims 8-15, 17-19, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robarts et al. (US 2005/0278741) in view of Lee et al. (US 6,463,428) in view of Kikinis (US 7,213,256 B1) in view of Dagtas et al (US 2003/0093260 A1). Hereinafter referred as Robarts, Lee, Kikinis and Dagtas.

Regarding claims 8 and 11, Robarts et al. ("Robarts") teaches a content program information search system comprising: a server (Fig. 3--42) logically connected to a first database (Fig. 3--EPG database 86) configured to store a plurality of search terms inputted from external devices (paragraph 48, 49 and 85); and a digital signal receiver configured to detect and to display for a selected search term of the plurality of search

terms at least one of a content signal and detailed content information from a digital signal transmitted from a transmitter (paragraph 77, 82), wherein said server is configured to extract from the first database and to transmit to the transmitter at least one transmission search term of the plurality of search terms (paragraphs 47, 48 and 49).

Robarts, however, is silent in teaching extracting and transmitting at least one search term based on an order of priority based on search frequency and said digital signal receiver is configured to display in the order of priority the at least one transmission search term transmitted from the transmitter.

In analogous art, Lee et al. ("Lee") teaches extracting and transmitting at least one search term based on an order of priority based on search frequency and said digital signal receiver is configured to display in the order of priority the at least one transmission search term transmitted from the transmitter (col. 5, lines 1-16--extracted keywords could be ranked based on frequency in which the keyword appeared; col. 7, lines 19-29--server operating offsite through a link).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Robarts by extracting and transmitting at least one search term based on an order of priority based on search frequency and said digital signal receiver is configured to display in the order of priority the at least one transmission search term transmitted from the transmitter, as taught by Lee, in order make the number of possible keywords easier to handle and easier to select (Lee: col. 5, lines 1-5).

However, Robarts and Lee are silent in teaching the digital signal receiver is an external device. Kikinis discloses in (column 5 lines 19-22) the processor (410) in the described embodiment acts under program control by a program stored in program logic memory (440) to perform the previously described expanded search functions (305). Figure 4 shows the memory (440) to be external from the system.

Further, it would have been obvious at the time of the invention to include the use of an external recording digital receiver to act as an external device. This is a useful combination because an external recording device allows a system for user friendly exchange of data.

However, Robarts, Lee and Kikinis are silent in teaching a system wherein the search frequency corresponds to a frequency at which the search terms are input from the external input device. Dagtas teaches on (page 4 paragraph (0045)) controller (250) comprises metadata search module (330) which compares search words specified by a user with words contained within a metadata. In addition (paragraph (0048)) teaches computer software (350) comprises exclusive metadata search application (430), word pair database (450), rank value calculation application (460), priority assignment application (470), and recording priority update application. Further, (figure 3) shows the multimedia processor (240) has inputs from the external metadata search module (330), computer software (350), etc.

Therefore, it would have been obvious at the time of the invention to include the use of a search frequency at which the search terms are input from the external input

device. This is a useful combination because the system is capable of browsing through a list of keywords and filters before inserting them to a dictionary.

Regarding claim 9, refer to the rejection of claim 12.

Regarding claim 10, Robarts teaches wherein the digital signal receiver is an internet-accessible web television receiver (Fig. 3--64, 94; paragraph 50-- supplemental content can be web pages).

Regarding claim 12, Robarts teaches wherein said digital signal receiver includes: a detector configured to detect the at least one transmission search term of the plurality of search terms from the digital signal (Fig. 3--74; paragraph 45); a list generator configured to generate a search term list by arrangement of the detected transmission search term (Fig. 6--202,204,206, etc.); a controller (Fig. 5--102; paragraph 63) configured to control display of the generated search term list if a user request for a search is inputted, and, if the selected search term is selected from the displayed search term list, to control the display of the detailed content information for the selected search term (Fig. 7; paragraph 82); a graphic engine configured to provide in a displayable form the search term list and the detailed content information for the selected search term according to control of said controller (Fig. 7--EPG graphical user interface); a display unit configured to display at least one of the search term list and the detailed content information provided by said graphic engine (Fig. 3--broadcast enabled

personal computer); and a communication interface configured to transmit the selected search term to the first database (paragraph 53--back channel).

Robarts, however, is silent in teaching generating a search term list based on the order of priority. In analogous art, Lee teaches generating a search term list based on the order of priority (col. 5, lines 1-16--extracted keywords in the list could be ranked based on frequency in which the keyword appeared; col. 7, lines 19-29--server operating offsite through a link).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Robarts by generating a search term list based on the order of priority, as taught by Lee, in order make the number of possible keywords easier to handle and easier to select (Lee: col. 5, lines 1-5).

Regarding claim 13, Robarts teaches an internet service provider (Fig. 3--94) configured to provide a path to transmit the selected search term of the plurality of search terms from an external device of the external devices to the first database (paragraphs 52, 53 and 85), the external device being at least one digital signal receiver (Fig. 3--64) connected to said internet service provider.

Regarding claim 14, Robarts teaches wherein the search mode is at least one of a search mode based on search frequency, a search mode based on a proper noun extracted from the content program guide information, a search mode based on an input text, and a search mode based on a program content category (paragraph 78--categories; paragraph 82--text search mode).

Regarding claims 15 and 17, refer to the rejections of claims 11 and 13.

Regarding claim 18, Robarts teaches wherein said server further comprises a second database configured to store content program guide information including the detailed content information (Fig. 3--82, 80), the server configured to transmit to the transmitter the broadcast program guide information (paragraph 47) and the at least one transmission search term of the plurality of search terms according to the order of priority (paragraph 48 and 49).

Regarding claim 19, refer to the rejections of claim 11. In addition, Lee discloses the order of priority is based on a search frequency of the selected search term (list could each be ranked based on frequency weighted by the context in which the keyword appeared (column 5 lines 14-16).

Regarding claim 21, refer to the rejections of claim 13.

4. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robarts in view of Lee in view of Dagtas, as applied to claims 1,3, 4 and 5 above, and further in view of Hori et al. (US 7,209,942).

Regarding claim 5, Robarts teaches wherein said detector is configured to detect the content program guide information from the digital signal (Fig. 3--program info), and if the user request for the search in at least one of a noun search mode based on a proper noun, a text search mode based on text input, and a category search mode based on a category is received, the controller controls searching for a desired content

program from the content program guide information according to the search mode requested (paragraph 78--categories; paragraph 82--text search mode).

Robarts and Lee are silent in teaching a proper noun extractor configured to extract at least one proper noun from the detected content program guide information and a proper noun storage configured to store the extracted proper noun.

In analogous art, Hori et al. ("Hori") teaches a proper noun extractor (Fig. 1--102) configured to extract at least one proper noun from the detected content program guide information and a proper noun storage (Fig. 1--103) configured to store the extracted proper noun (col. 7, lines 14-17 and lines 31-58; col. 8, lines 5-13).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Robarts and Lee by incorporating a proper noun extractor configured to extract at least one proper noun from the detected content program guide information and a proper noun storage configured to store the extracted proper noun, as taught by Hori, in order to extract and store important words such as a proper noun (Hori: col. 7, lines 14-17).

Regarding claim 6, Robarts teaches wherein said digital signal receiver further includes: an information storage configured to store the detected content program guide information (Fig. 5--72). Robarts, however, is silent in teaching a search term storage configured to store the at least one transmission search term according to the order of priority.

In analogous art, Lee teaches a search term storage (Fig. 1--235) configured to store the at least one transmission search term according to the order of priority (col. 5, lines 1-16--extracted keywords could be ranked based on frequency in which the keyword appeared; col. 5, lines 11-14 and col. 15, lines 17-22--terms that occur with some degree of frequency could be stored in a keyword list).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Robarts by a search term storage configured to store the at least one transmission search term according to the order of priority, as taught by Lee, in order make the number of possible keywords easier to handle and easier to select (Lee: col. 5, lines 1-5).

(10) Response to Argument

Appellant argues on page 16 third paragraph, "the proposed combination fails to teach or suggest wherein the search frequency corresponds to a frequency at which the search terms are input from the external input device." Examiner disagrees. Lee teaches on (column 5 lines 14-15) the keywords in the list could each be ranked based on frequency or frequency weighted by the context in which the keyword appeared." This clearly teaches the search frequency corresponds to a frequency of which the search terms are used. Furthermore, Lee teaches on (column 5 lines 1-5) extracting keywords from records based on frequency of occurrence or a variation. This keyword extraction must be generated from some source. There must be a user inputting keywords at some point in time to be able to record data in a system. Hence, there must

be external input for the system. In addition, Dagtas teaches the search term can be inputted externally. Dagtas teaches on (page 4 paragraph (0055)) controller (250) generates and sends a message to the user through multimedia processor (240) and display unit (130) asking the user to input a desired search field weight factor for each search field. This clearly shows the input from an external device taught by Dagtas.

In addition, Appellant also argues on page 16 fourth paragraph, "the claimed feature requires that the search frequency correspond to the frequency at which the search terms are input by the external device." Examiner again respectfully disagrees. The search frequency at which the search terms are input is not specified in the claim. Almost any frequency of search meets this limitation, once a day, weekly, monthly yearly, etc. Dagtas teaches on (page 4 paragraph (0055)) controller (250) generates and sends a message to the user through multimedia processor (240) and display unit (130) asking the user to input a desired search field weight factor for each search field. This clearly shows the input from an external device taught by Dagtas.

Furthermore, Appellant argues on page 17 third paragraph, "the frequency at which the keyword appeared in a search result does not teach or suggest a frequency at which the search terms are input." Examiner again disagrees. The feature of inputting search terms by an external device is taught by Dagtas as shown on the previous paragraph on (page 4 paragraph (0055)).

Moreover, Appellant argues on page 18 third paragraph, "examiner's rejection fails to indicate why it would be obvious, based on the proposed combination of references, to create a server that is configured to extract from the first database based

on an order of priority based on search frequency, wherein the search frequency corresponds to a frequency at which the search terms are input from the external input device." The examiner disagrees. Under the KSR rules, all elements are known in the prior art, and could be combined by well known programming methods to yield the predictable results in which the cited portions were intended. In this case, Robarts was used primarily to show a server configured to extract data from a first database. Lee was used to show extracting and transmitting at least one search term based on an order priority based on the frequency of use. And Dagtas was used to teach the search terms are input from the external input device. The combination of these three references could be combined by known C+ programming techniques and would yield in predictable results, hence the combination is proper.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Franklin Andramuno

/F.A./

Conferees:

/Christopher Kelley/

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